Can we improve real-time estimates of the output gap for policy purposes?

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The output gap ought to be a key input in short-term policy-making because it provides a summary measure of economic slack, so allowing policy-makers to anticipate inflationary pressures. It can also be used to estimate cyclically-adjusted measures of the fiscal balance, to provide a better assessment of fiscal sustainability. Unfortunately, estimating output gaps is far from an exact science, and estimates are often revised leading some to question their usefulness.

Recent OECD work proposes a way of incorporating additional information into the existing OECD methodology that should better anchor output gap estimates so they are less prone to revision. Estimating the output gap essentially means trying to disentangle the sustainable trend component of output from its cyclical component. Large revisions to a key component of the output gap occur because simple statistical filtering techniques, such as the Hodrick-Prescott filter, cannot distinguish trend from cycle at cyclical turning points when they occur at the end of the sample. Indeed, revisions to OECD published estimates of the output gap for G7 countries over the immediate pre-crisis period have typically been 2–3 percentage points and sometimes larger.

To better distinguish trend from cycle, the paper proposes exploiting historical correlations between key components of the output gap and other macroeconomic variables which are available on a timely basis: particularly manufacturing

capacity utilisation and the share of investment in GDP, and for some countries credit, house prices or the unemployment rate. How strongly each of these variables correlates to output gap components varies by country, but overall revisions to the output gap are reduced when a highly-correlated factor is considered in the estimation.

The additional adjustment substantially reduces revisions over the crisis period; the occurrence of revisions exceeding 2 percentage points is reduced from six of the G7 countries to a single country and the root mean square revision at turning points is reduced by one-third on average (Figure).

Root mean squared revisions to a key component of the output gap for 2007 and 2009

Percentage points of potential GDP
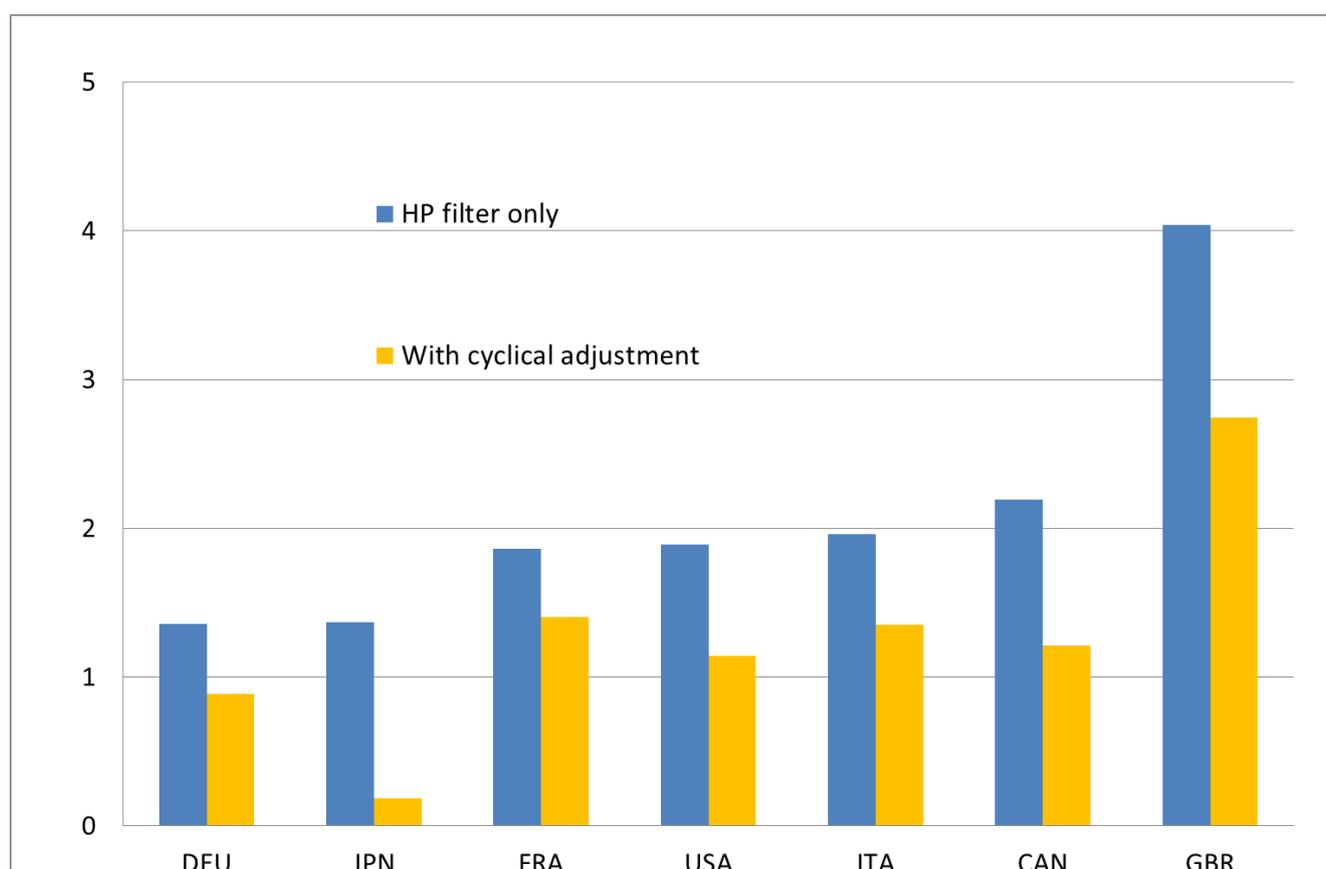
Note: **The chart shows revisions to the labour efficiency gap which is the main component of the output gap accounting for**

large historical revisions. Revisions are calculated both for a simple Hodrick-Prescott (HP) filter and an HP filter which is modified with the additional cyclical adjustment. Revisions for 2007 (2009) are calculated by applying the filtering procedure to data ending in 2007 (2009) to derive an initial estimate of the gap and then applying the same procedure over the full sample to 2014.

Useful though it is, this twist on the current methodology is not a panacea. Also, the size of eventual output gap revisions is only one of the yardsticks against which different methodologies should be evaluated. After all, a rule that the output gap was a fixed number would show no revision at all, but would be useless for policy. Good estimates should also pass the 'smell test' of credibility and be able to explain inflation developments. Research on these issues is ongoing at the OECD and elsewhere.

References:

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